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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,335	10/09/2003	Robrecht De Weerd	081468-0306313	3386

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PILLSBURY WINTHROP SHAW PITTMAN, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER

JONES, JUDSON

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/681,335	Applicant(s) DE WEERDT, ROBRECHT	
	Examiner Judson H. Jones	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is FINAL.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7, 8 and 13 is/are rejected.
- 7) ☒ Claim(s) 4, 6 and 9-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/9/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some * c) ☐ None of:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Claim Objections***

Claims 5 and 9 are objected to because of the following informalities: it is not clear what the claims mean. The phrase “the magnets along said first and second direction have the same polarity” in claim 5 could mean that the magnets along the first direction all have a first polarity and the magnets along a second direction all have a second polarity or that all of the magnets have the same polarity. Claim 9 is also objected to because there is antecedent basis of “the gaps between magnets of the Halbach array and there is no clear antecedent basis for the “the square shaped magnets along said first and second directions.” Claim 1 recites “a magnetic field distribution” in a first and second direction. Claim 9 states the magnetic field distribution is generated by a Halbach array, but does not say that the Halbach array comprises magnets along first and second directions. The claim also states that square shaped magnets are in the gaps between magnets of the Halbach array. As shown in figure Hazelton 6,097,114 B1, magnets in the gaps between the magnets of a Halbach array are not necessarily located along the magnetic field distribution’s first and second director. If the square shaped magnets along said first and second directions are Halbach array magnets, then it has not been established that the magnets are square shaped. If the square shaped magnets along said first and second directions are the magnets between magnets of the Halbach array, then it has not been established that these magnets are along said first and second directions. Appropriate correction is required.

Claim Interpretation

Since the drawings do not show any embodiment where all of the magnets in the device have the same polarity, claims 5 and 9 are viewed as meaning that the magnets along the first

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direction all have a first polarity and the magnets along a second direction all have a second polarity.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 7, 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hazelton 6,097,114 B1 in view of Aoyama et al. 5,808,381. Hazelton discloses a lithographic apparatus comprising an illumination system, a patterning device, a substrate table and a positioning device as described in column 15 lines 6 ½ - 27 ½ with a first part comprising a magnetic field that periodically alternates in a first and second direction as shown in figure 5 but does not disclose anisotropic magnetic field distributions. Aoyama et al. teaches using anisotropic fields for linear motors in column 3 lines 28-32. Since Aoyama et al. and Hazelton et al. are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized anisotropic fields for the planar motor of Hazelton et al. in order to provide higher energy magnetic fields. (The planar motor of Hazelton et al. is a combination of an X direction linear motor and a Y direction linear motor.)

In regard to claim 2, see Hazelton et al. column 2 lines 47 -67.

In regard to claim 3, see Hazelton et al. figures 5 and 8A.

In regard to claims 5 and 8, see Hazelton et al. figure 5.

In regard to claim 7, see Hazelton et al. figure 8A.

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In regard to claim 8 see Hazelton et al. figure 5.

In regard to claim 13, while this claim is a method claim, the method steps are met by the operation of the structural elements recited in claim 1.

Allowable Subject Matter

Claims 4, 6 and 9-12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose or teach square and octagonal shaped magnets in combination with the other features of claim 4. The prior art of record does not disclose or teach magnets of a first type and a second type in combination with the other features of claim 6. The prior art of record does not disclose or teach square shaped magnets along first and second directions of a Halbach array with square shaped magnets between Halbach array magnets as recited in claim 9.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Denne 6,268,667 B1 teaches in column 2 lines 57-61 that both the fixed and movable parts of a linear motor can be coils. No motivation has been found for combining this teaching with a lithographic apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H. Jones whose telephone number is 571-272-2025. The examiner can normally be reached on 8-4:30 M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Judson Jones 4/29/2005



THANH LAM
PRIMARY EXAMINER